

CLAIMS

1. Apparatus for use in a NMR system, the apparatus comprising a magnetic field generator surrounding a bore, for generating a magnetic field in a working volume located in the bore; a sample support which can be removably inserted into a first end of the bore so as to locate a sample in the working region; a probe carrying RF generating and receiving coils and which can be removably inserted into the other, second end of the bore so as to locate the RF coils adjacent the working volume; and a set of shim coils located in the bore about the working volume and which cooperate with the magnetic field generator to create a magnetic field in the working volume of sufficient uniformity to perform a NMR experiment on a sample characterized in that the RF receiving and generating coils are located in a reduced diameter section of the probe at its leading end; and in that at least some of the shim coils are located on a support surrounding the reduced diameter section of the probe.
2. Apparatus according to claim 1, wherein the shim coil support is coupled, preferably integrally formed, with the sample support.
3. Apparatus according to claim 1 or claim 2, wherein the reduced diameter section of the probe includes other shim coils.
4. Apparatus according to claim 3, wherein the reduced diameter section of the probe includes axial field shim coils.
5. Apparatus according to claim 3, wherein the reduced diameter section of the probe includes radial field shim coils.
6. Apparatus according to any of the preceding claims, wherein the reduced diameter section of the probe terminates at a wider diameter section, the wider diameter section substantially filling the bore cross-section.

7. Apparatus according to claim 6, wherein all the shim coils are located axially spaced from the wider diameter section of the probe.

5 8. Apparatus according to any of the preceding claims, wherein the reduced diameter section of the probe supports one or more gradient coils.

9. Apparatus according to any of the preceding claims, wherein the sample support comprises a tube.

10 10. Apparatus according to any of the preceding claims, wherein the sample support includes a mechanism for rotating the sample within the working volume.

11. Apparatus according to any of the preceding claims, wherein the magnetic field generator comprises a superconducting coil.